

Serial No.: 10/579,090

Confirmation No.: 5257

Filed: April 11, 2007

For: DNA SEQUENCE AND EXPRESSED RECOMBINANT GLYCOPROTEINS RELATED TO FELINE THYROTROPIN

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1. (Canceled)
2. (Currently amended) An isolated feline thyrotropin β -subunit polypeptide wherein the amino acid sequence consists essentially of SEQ ID NO: 1.
3. (Currently amended) The feline thyrotropin β -subunit polypeptide of claim [[59]] 70, further comprising a signal sequence.
- 4-8. (Canceled)
9. (Currently amended) An [[The]] isolated feline thyrotropin yoked polypeptide of claim 13, the polypeptide comprising the amino acid sequence SEQ ID NO: 5.
- 10-33. (Canceled)
34. (Currently amended) A method of treating a mammal suspected of having hyperthyroidism, the method comprising:
administering to the mammal a composition comprising the feline thyrotropin β -subunit polypeptide of claim 70 or claim 98, the yoked polypeptide of claim 9, or the thyrotropin heterodimer of claim 63 or claim 65.
35. (Original) The method of claim 34, wherein the mammal is a cat.

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36. (Original) The method of claim 34, wherein the method further comprises sensitizing the thyroid to increase the response of the thyroid to ablative treatment with radioiodide.

37. (Currently amended) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a feline thyrotropin heterodimer comprising a thyrotropin α -subunit and the β -subunit polypeptide of claim 70, or a feline thyrotropin yoked polypeptide of claim [[13]]
2.

38. (Original) The pharmaceutical composition of claim 37, wherein the composition is formulated as a single unit dosage.

39-59. (Canceled).

60. (Previously Presented) The feline thyrotropin β -subunit polypeptide further comprising a signal sequence of claim 3, wherein the feline thyrotropin β -subunit polypeptide further comprising a signal sequence comprises SEQ ID NO: 2.

61-62. (Canceled)

63. (Currently amended) An [[The]] isolated thyrotropin heterodimer comprising the feline thyrotropin β -subunit polypeptide of claim 70 and a of claim 62 wherein the thyrotropin α -subunit polypeptide comprises comprising the amino acid sequence SEQ ID NO: 3.

64. (Canceled)

65. (Currently amended) An [[The]] isolated thyrotropin heterodimer comprising the feline

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thyrotropin β -subunit polypeptide of claim 70 and a of claim 62 wherein the thyrotropin α -subunit polypeptide comprises comprising the amino acid sequence SEQ ID NO: 4.

66-69. (Canceled)

70. (Currently amended) An isolated feline thyrotropin β -subunit polypeptide comprising the amino acid sequence SEQ ID NO: 1.

71-73. (Canceled)

74. (Previously Presented) The polypeptide of claim 70 further comprising the amino acid sequence SEQ ID NO: 3.

75-76. (Canceled)

77. (Currently amended) The polypeptide of claim ~~[[73]]~~ 74 comprising SEQ ID NO: 5 or comprising SEQ ID NO: 6.

78. (Currently amended) The polypeptide of claim ~~[[75]]~~ 74 comprising the amino acid sequence of SEQ ID NO:1 covalently yoked to the amino acid sequence of SEQ ID NO: 3 by a spacer peptide.

79. (Currently amended) The polypeptide of claim ~~[[75]]~~ 78, wherein the 5' to 3' order is the amino acid sequence comprising SEQ ID NO: 1, the spacer peptide, followed by the amino acid sequence comprising SEQ ID NO:3 thyrotropin α -subunit polypeptide.

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80. (Currently amended) The polypeptide of claim [[75]] 78 wherein the spacer peptide is the chorionic gonadotropin CTP spacer polypeptide (SEQ ID NO:13).

81. (Currently amended) A kit comprising the feline thyrotropin β -subunit polypeptide of claim 70 or claim 98 and packaging materials.

82. (Currently amended) A kit comprising the feline thyrotropin β -subunit polypeptide of claim 70 or claim 98 and a radioiodide.

83. (Currently amended) A kit comprising the feline thyrotropin β -subunit polypeptide of claim 70 or claim 98 and an anti-thyrotropin antibody.

84. (Canceled)

85. (Currently amended) A composition comprising the polypeptide of claim 70 or claim 98.

86. (Canceled)

87. (Currently amended) The polypeptide of claim 70 or claim 98 linked to an immunogenic carrier.

88. (Previously Presented) A composition comprising the polypeptide of claim 87.

89. (Currently amended) The composition of claim 85 further comprising a mammalian

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thyrotropin α -subunit α -subunit polypeptide, wherein said thyrotropin α -subunit polypeptide binds the thyrotropin β -subunit polypeptide and forms a heterodimer that stimulates cells expressing thyroid stimulating hormone receptors (THS-R) to produce cAMP.

90. (Currently amended) A pharmaceutical composition comprising the isolated polypeptide of [[70]] claim 98 or the heterodimer of claim 63 or claim 65 and a pharmaceutically acceptable carrier.

91. (Currently amended) An immunoassay standard comprising the isolated polypeptide of claim 70 or claim 98.

92. (Currently amended) A fusion protein comprising the isolated polypeptide of claim 70 or claim 98.

93. (Currently amended) The fusion protein of claim 92, wherein the fusion protein further comprises a mammalian thyrotropin α -subunit α -subunit polypeptide and wherein said fusion protein stimulates cells expressing thyroid stimulating hormone receptors (THS-R) to produce cAMP.

94-95. (Canceled)

96. (Previously Presented) An isolated polynucleotide comprising a nucleic acid sequence encoding the polypeptide of claim 70.

97. (Previously Presented) The isolated polynucleotide of claim 96, wherein the nucleic acid sequence is selected from the group consisting of SEQ ID NO: 7, SEQ ID NO:8, SEQ ID NO:11, and SEQ ID NO:12.

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98. (Previously Presented) An isolated polypeptide comprising an amino acid sequence with at least 99% identity to SEQ ID NO: 1.